

Application Serial No.: 10/721,743

Dean W. Boyd *et al.*

Response to Office Action mailed September 25, 2006

**Amendment to the Drawings:**

Applicant has attached replacement drawings for FIGs. 4, 8, and 14. Applicant has amended FIGs. 4 and 8 to correct typographical errors. Applicant has further amended FIG. 14 to correct a reference number. No new matter has been added.

REMARKS

The subject patent application has been transferred to the law firm of Quarles & Brady. The undersigned attorney has assumed responsibility for prosecution of the subject application.

Applicant has amended FIGs. 4, 8, and 12 to correct typographical errors. No new matter has been added.

The Office Action objects to the specification. Applicants have amended the brief description of the drawings to comply with the Examiner's request. Applicants have further reviewed the specification and corrected any inconsistencies in the use of references numbers, as well as correcting typographical errors. No new matter is believed to have been added to the specification.

The Office Action objects to claims 5 and 12. These claims have been cancelled which renders the objection moot.

Applicants acknowledge the Examiner's correction regarding the Information Disclosure Statements filed on November 15, 2004 and September 14, 2005.

The Office Action rejects claims 8, 10, 11, and 14 under 35 U.S.C. 102(e) as being anticipated by US patent 6993494 (Boushy). The Office Action rejects claims 8, 9, 12, and 14 under 35 U.S.C. 102(e) as being anticipated by US patent publication 2002/0165834 (Delurgio). The Office Action rejects claims 9 and 13 under 35 U.S.C. 103 as being unpatentable over Boushy in view of official notice. The Office Action rejects claims 11 and 12 under 35 U.S.C. 103 as being unpatentable over Boushy. The Office Action rejects claims 1-7 under 35 U.S.C. 103 as being unpatentable over Boushy in view of official

notice. The Office Action rejects claims 10, 11, and 13 under 35 U.S.C. 103 as being unpatentable over Delurgio. The Office Action rejects claims 1-7 under 35 U.S.C. 103 as being unpatentable over Delurgio in view of official notice.

Applicants have cancelled claims 1-14, which renders the above 102 and 103 rejections moot.

In an effort to place the subject application in condition for allowance, Applicant(s) have provided new claims 15-45.

New claim 15 recites a computer-implemented method of promotion price optimization comprising the steps of providing a product segmentation module to identify products to be analyzed under a plurality of promotion schemes, providing a customer segmentation module to identify customers of the products to be analyzed under the promotion schemes, providing an incentive translation module for providing incentive typing of the products to be analyzed under the promotion schemes, providing a data aggregation module to evaluate historical promotional transactions by aggregating product data for the products to be analyzed under the promotion schemes, and providing a model selection module to select a model for analyzing the aggregated product data. The model selection module uses the steps of selecting a standard model if product data is unavailable, selecting sales volume as a dependent variable and evaluate using a multiplicative model if product data is available and complete, selecting sales volume as a dependent variable and evaluate using a multiplicative model if product data is available but incomplete and product segments are cross-impacted, selecting market share as a dependent variable and evaluate using a multiplicative model if product data is available but incomplete and product segments are not cross-

impacted but the number of products to evaluate exceeds a predetermined maximum value, and selecting market share as a dependent variable and evaluate using an attraction model if product data is available but incomplete and product segments are not cross-impacted and the number of products to evaluate is less than the predetermined maximum value. The promotion price optimization process further includes the steps of providing a calibration module to calibrate the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, providing an evaluation module to estimate an effect of promotional schemes on profits by evaluating the aggregated product data in accordance with the selected model, providing a constraints generation module for a user to define constraints on variables in the selected model, providing a cost structure module to determine costs associated with the promotion schemes, and providing an optimization module to determine optimal discount for the products to be analyzed under the promotion schemes and rank the products by profitability.

None of the prior art references of record, taken singularly or in combination, teach or suggest at least the step of providing a model selection module to select a model for analyzing the aggregated product data by the steps of selecting a standard model if product data is unavailable, selecting sales volume as a dependent variable and evaluate using a multiplicative model if product data is available and complete, selecting sales volume as a dependent variable and evaluate using a multiplicative model if product data is available but incomplete and product segments are cross-impacted, selecting market share as a dependent variable and evaluate using a

multiplicative model if product data is available but incomplete and product segments are not cross-impacted but the number of products to evaluate exceeds a predetermined maximum value, and selecting market share as a dependent variable and evaluate using an attraction model if product data is available but incomplete and product segments are not cross-impacted and the number of products to evaluate is less than the predetermined maximum value. The prior art discloses no such process in selecting the model.

Furthermore, none of the prior art references of record teach or suggest the steps of providing a calibration module to calibrate the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, providing a constraints generation module for a user to define constraints on variables in the selected model, providing a cost structure module to determine costs associated with the promotion schemes, and providing an optimization module to determine optimal discount for the products to be analyzed under the promotion schemes and rank the products by profitability. This combination of features for the promotion price optimization process is not found in the prior art of record.

Accordingly, claim 15 is believed to patentably distinguish over the prior art of record. Claims 16-29 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 30 recites a computer-implemented method of promotion price optimization comprising the steps of identifying products to be analyzed under a plurality of promotion schemes, identifying customers of the products to be analyzed under the

promotion schemes, providing incentive typing of the products to be analyzed under the promotion schemes, evaluating historical promotional transactions by aggregating product data for the products to be analyzed under the promotion schemes, selecting a model for analyzing the aggregated product data, calibrating the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, estimating an effect of promotional schemes on profits by evaluating the aggregated product data in accordance with the selected model, defining constraints on variables in the selected model, wherein the constraints are defined by a user, determining costs associated with the promotion schemes, and determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability.

None of the prior art references of record, taken singularly or in combination, teach or suggest at least the steps of selecting a model for analyzing the aggregated product data, calibrating the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, defining constraints on variables in the selected model, wherein the constraints are defined by a user, determining costs associated with the promotion schemes, and determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability. This combination of features for the promotion price optimization process is not found in the prior art of record.

Accordingly, claim 30 is believed to patentably distinguish over the prior art of record. Claims 31-32 are believed to be

in condition for allowance as each is dependent from an allowable base claim.

New claim 33 recites a computer-implemented method of promotion price optimization comprising the steps of identifying products to be analyzed under a plurality of promotion schemes, selecting a model for analyzing the products under the promotion scheme, defining constraints on variables in the selected model, wherein the constraints are defined by a user, and determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability.

None of the prior art references of record, taken singularly or in combination, teach or suggest at least selecting a model for analyzing the products under the promotion scheme, defining constraints on variables in the selected model, wherein the constraints are defined by a user, and determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability. This combination of features for the promotion price optimization program is not found in the prior art of record.

Accordingly, claim 33 is believed to patentably distinguish over the prior art of record. Claims 34-37 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 38 recites a computer program product usable with a programmable computer processor having a computer readable program code embodied therein comprising computer readable program code which identifies products to be analyzed under a plurality of promotion schemes, identifies customers of the products to be analyzed under the promotion schemes, selects a model for analyzing the aggregated product data, calibrates the

selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, estimates an effect of promotional schemes on profits by evaluating the aggregated product data in accordance with the selected model, provides for user-defined constraints on variables in the selected model, determines costs associated with the promotion schemes, and determines optimal discount for the products to be analyzed under the promotion schemes and ranks the products by profitability.

None of the prior art references of record, taken singularly or in combination, teach or suggest at least computer readable program code which selects a model for analyzing the aggregated product data, calibrates the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, provides for user-defined constraints on variables in the selected model, determines costs associated with the promotion schemes, and determines optimal discount for the products to be analyzed under the promotion schemes and ranks the products by profitability. This combination of features for the promotion price optimization program is not found in the prior art of record.

Accordingly, claim 38 is believed to patentably distinguish over the prior art of record. Claims 39-41 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 42 recites a computer system for promotion price optimization comprising means for identifying products to be analyzed under a plurality of promotion schemes, means for identifying customers of the products to be analyzed under the

promotion schemes, means for selecting a model for analyzing the aggregated product data, means for calibrating the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, means for estimating an effect of promotional schemes on profits by evaluating the aggregated product data in accordance with the selected model, means for a user to define constraints on variables in the selected model, means for determining costs associated with the promotion schemes, and means for determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability.

None of the prior art references of record, taken singularly or in combination, teach or suggest at least means for selecting a model for analyzing the aggregated product data, means for calibrating the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model, means for a user to define constraints on variables in the selected model, means for determining costs associated with the promotion schemes, and means for determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability. This combination of features for the promotion price optimization system is not found in the prior art of record.

Accordingly, claim 42 is believed to patentably distinguish over the prior art of record. Claims 43-45 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant(s) believe that all information and requirements for the application have been provided to the USPTO. If there

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are matters that can be discussed by telephone to further the prosecution of the Application, Applicant(s) invite the Examiner to call the undersigned attorney at the Examiner's convenience.

The Commissioner is hereby authorized to charge any fees due with this Response to U.S. PTO Account No. 17-0055.

Respectfully submitted,  
**QUARLES & BRADY LLP**

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